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EXAMINER	
LERNER, MARTIN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/653,039	BENNETT, IAN M.	
	Examiner	Art Unit	
	MARTIN LERNER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 to 15 and 22 to 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 to 15 and 22 to 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The Information Disclosure Statements filed 02 April 2009 are duplicates of the Information Disclosure Statement filed 21 October 2008. These Information Disclosure Statements have been placed in the application file, but they are not being entered. There are eight (8) 45-Page Information Disclosure Statements filed on 02 April 2009. Each of these Information Disclosure Statements is identical to the 45-Page Information Disclosure Statement filed on 21 October 2008. Accordingly, these eight (8) Information Disclosure Statements are marked as duplicates, and indicated that they are not being entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 to 3, 6 to 9, 13, 22, 24 to 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)*.

Concerning independent claims 1 and 22, *Crespo et al. ('179)* discloses a speech recognition system and method, comprising:

"a speech recognition engine for generating recognized words taken from an articulated speech utterance" – spoken language system 100 comprises a CSR (continuous speech recognition component) 120; input means 110 receives a spoken input in the form of a sentence which is passed to the CSR 120; acoustic phonetic information is fed to the CSR 120 in a conventional manner, typically to constrain the search space of the recognizer (column 6, lines 41 to 48: Figure 2);

"a natural language engine configured for linguistically processing said recognized words [to generate search predicates for said articulated speech utterance]" – spoken language system 100 comprises a NLU (natural language understanding component) 130 (column 6, lines 41 to 48: Figure 2);

"said natural language engine being further configured for linguistically processing said set of one or more corresponding recognized matches to determine a final match for said articulated speech utterance using both semantic decoding and statistical based processing performed on said recognized words" – language knowledge 150 includes both statistical information 160 and semantic information 170 for producing a meaning to CSR 120 and NLU 130 (column 6, lines 48 to 65: Figure 2).

Concerning independent claims 1 and 22, *Crespo et al. ('179)* does not expressly disclose that the natural language engine generates "at least two different types of search predicates for said articulated speech utterance", or "wherein said search predicates correspond to logical operators to be satisfied by a potential recognition

match", or "a query formulation engine adapted to convert said recognized words and said search predicates into a structured query suitable for locating a set of one or more corresponding recognized matches for said articulated speech utterance", or "wherein said semantic decoding is performed on entire sentences contained in said articulated speech utterance to determine semantic variants of said word sentence in said one or more corresponding recognized matches". However, *Braden-Harder et al. ('822)* teaches:

"wherein said search predicates correspond to logical operators to be satisfied by a potential recognition match" – typically, a query contains one or more user-supplied keywords, and possibly Boolean (such as "AND" and "OR") or similar (such as numeric proximity) operators situated between keywords (column 2, lines 10 to 17); processor 30 analyzes a query as a logical form for semantic relationships between words in a linguistic phrase in a sentence (column 7, line 46 to column 8, line 6: Figure 1); a logical form is a "search predicate" and Boolean operators are "logical operators";

"at least two different types of search predicates for said articulated speech utterance" – "a first search predicate" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a second search predicate" is produced from a set of logical triples in a NLU routine 700 through the left branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Step 645);

"a query formulation engine adapted to convert said recognized words and said search predicates into a structured query suitable for locating a set of one or more

corresponding recognized matches for said articulated speech utterance" – processor 30 compares a set of forms of the query against a set of logical forms associated with each of the documents in the set to ascertain any match between logical forms in the query set and logical forms for each document (column 7, line 46 to column 8, line 6);

"wherein said semantic decoding is performed on entire sentences contained in said articulated speech utterance to determine semantic variants of said word sentence in said one or more corresponding recognized matches" – a sentence 510, "The octopus has three hearts", is morphologically analyzed to normalize different words forms, *e.g.*, a verb tense and singular-plural noun variations (column 12, lines 30 to 65: Figure 5A); similarly, a full-text query can be a sentence question, "Are there any air-conditioned hotels in Bali?" or "Give me contact information for all fireworks held in Seattle during the month of July." (column 15, lines 11 to 16); an input string is used to generate logical forms that portray a semantic relationship between words (column 11, lines 41 to 55); thus, morphological analysis normalizes for semantic variants of verb tense and nouns plurals.

Concerning independent claims 1 and 22, *Braden-Harder et al. ('822)* suggests an objective is to improve the accuracy of keyword-based natural language document searching. (Column 5, Lines 1 to 7) It would have been obvious to one having ordinary skill in the art to incorporate a system and method employing at least two different search predicates with logical operators for a structured query to locate corresponding matches as taught by *Braden-Harder et al. ('822)* into a search optimization system and

method for continuous speech recognition of *Crespo et al. ('179)* for a purpose of improving the accuracy of keyword-based document searching.

Concerning claim 2, *Braden-Harder et al. ('822)* teaches "a first level query" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a second level query" is produced by comparing each of the logical form triples in the query against each of the logical form triples of the retrieved documents, and discarding documents that do not exhibit a matching triple (column 16, lines 1 to 18: Figure 6A: Steps 650 and 655); thus, "a second level query" is produced by paring down the matching documents ("said set of electronic records") based on semantic constraints; an information retrieval system is based on documents in a dataset from the world wide web (column 8, lines 10 to 14); documents from the world wide web are "a set of electronic records".

Concerning claims 3 and 24, *Braden-Harder et al. ('822)* teaches that the operations in Step 645 are performed in parallel with the operations in Steps 610 and 635 (column 15, lines 48 to 53: Figure 6A); operation in parallel implies that the operations occur at the same time ("during a time" or "overlap in time").

Concerning claim 6, *Braden-Harder et al. ('822)* teaches a web browser 420 operating on a client computer 300 and a search engine 225 operating on a server computer 220 (column 8, lines 30 to 55: Figure 2).

Concerning claims 7, 8, and 26, *Braden-Harder et al. ('822)* teaches that logical form triples can be noun phrases (NP) (column 12, lines 39 to 65: Table 1; column 14,

lines 41 to 49); documents with the highest score are obtained by matching logical forms of a query against a set of logical forms of each of the documents (column 7, line 55 to column 8, line 6); thus, noun phrases as logical form triples produce documents with the highest score ("said final match").

Concerning claim 9, *Crespo et al. ('179)* discloses a search optimization system for real time response (column 1, lines 21 to 26).

Concerning claim 13, *Braden-Harder et al. ('822)* teaches an ALTA VISTA search engine for accessing documents through the World Wide Web ("a web page") (column 8, lines 30 to 55: Figure 2).

Concerning claim 25, *Braden-Harder et al. ('822)* teaches "a preliminary query" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a final query" is produced from a set of logical triples in a NLU routine 700 through the left branch of retrieval process 600 and comparing them against each of the logical forms of the documents retrieved from a full text query (column 15, line 64 to column 16, line 5: Figure 6A: Step 650).

Concerning claim 28, *Braden-Harder et al. ('822)* teaches retrieving documents from multiple servers (column 9, lines 13 to 22; column 10, lines 12 to 22; column 10, lines 41 to 49).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claim 1 above, and further in view of *McDonough et al.*

Crespo et al. ('179) omits calculating a term frequency based on a lexical distance between each word and one or more topic queries, although this is merely one way of scoring similarity between words. However, *McDonough et al.* teaches topic discrimination for a speech recognition system, where event frequency detectors 12, 38 are employed for word spotting of event occurrence patterns, and the events are words ("term frequency calculation"). (Column 6, Line 55 to Column 7, Line 25; Column 8, Lines 30 to 53: Figures 1 and 3) One preferred method employs a Kullback-Liebler distance measure ("lexical distance"), providing a measure of dissimilarity of the occurrence patterns of an event for a given topic ("topic query entries") as opposed to all other topics. (Column 11, Lines 40 to 60) It is suggested that improved speech recognition can be achieved if a potential topic can be detected for a set of potential speech events. (Column 3, Line 63 to Column 4, Line 24) It would have been obvious to one having ordinary skill in the art to calculate a term frequency based on a lexical distance between words and one or more topic queries as taught by *McDonough et al.* in a search optimization system of *Crespo et al. ('179)* for a purpose of improving speech recognition by topic discrimination.

Claims 5, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Appelt et al. ('026)*.

Braden-Harder et al. ('822) omits context parameters for generating search predicates, SQL search predicates, and providing a match as an audible response.

However, these are all well known features of interactive voice response (IVR) systems. Specifically, *Appelt et al. ('026)* teaches information retrieval by natural language querying, where documents are associated with a topic, *e.g.* joint ventures, education, medicine, or law. (Column 5, Lines 37 to 45; Column 6, Lines 62 to 67) A topic is equivalent to a "context parameter" for a search predicate. A query may be executed as an SQL query. (Column 6, Lines 13 to 26) Each user query can be entered verbally and recognized by speech recognition, and a result can be provided to a text-to-speech (TTS) system that translates the text to speech for the user to hear. (Column 13, Lines 9 to 17; Column 13, Lines 39 to 41) An objective is to provide search results, along with a concise summary, to users in a timely fashion, with high quality, properly packaged information that can assist users in making their decisions. (Column 4, Lines 22 to 34) It would have been obvious to one having ordinary skill in the art to incorporate the features taught by *Appelt et al. ('026)* involving topic parameters, SQL queries, and text-to-speech responses into an information retrieval system that employs natural language of *Braden-Harder et al. ('822)* for a purpose of presenting search results to users in a timely and high-quality package.

Claims 10 to 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Barclay et al.*

Braden-Harder et al. ('822) discloses a client/server information retrieval system (Figure 2), but omits distributing speech recognition across a client-server architecture,

so as to optimize an amount of speech to reduce recognition latencies, and where more than 100 potential matches are determined in less than 10 seconds. However, distributed speech recognition in a client-server architecture is well known. Specifically, *Barclay et al.* teaches a client-server speech recognizer, where processing capabilities are distributed between the client and the server. (Abstract) A client digitizes speech, extracts features, and quantizes the features, and a server performs speech recognition. (Column 4, Lines 1 to 9) Latency is reduced because a server dispatcher accepts and buffers messages before the recognizer is ready to receive and process the messages. (Column 7, Lines 28 to 32) A real-time response is obtained. (Abstract) An application is to WWW browser queries involving an airline ticketing reservation form. (Column 8, Line 36 to Column 8, Line 30) Inherently, any practical real-time response is produced in less than 10 seconds, and "notice" is taken that airline reservation applications involve more than 100 potential destinations. An objective is to process speech with large vocabularies and grammars in real time with a client computer being a laptop. (Column 4, Lines 10 to 16) It would have been obvious to one having ordinary skill in the art to incorporate the client/server architecture for distributed speech recognition of *Barclay et al.* into an information retrieval system of *Braden-Harder et al. ('822)* for a purpose of processing speech with large vocabularies and grammars in real time on a laptop.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claim 1 above, and further in view of *Agarwal et al. ('196)*.

Braden-Harder et al. ('822) omits a relational database that is updated asynchronously to reduce retrieval latency. However, *Agarwal et al. ('196)* teaches that it is common for relational databases to be updated in an asynchronous manner to avoid the inefficiencies of re-reading records. It would have been obvious to one having ordinary skill in the art to asynchronously update a relational database as taught by *Agarwal et al. ('196)* to search databases of *Braden-Harder et al. ('822)* for a purpose of avoiding inefficiencies of re-reading records.

Claims 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Messerly et al. ('977).*

Braden-Harder et al. ('822) teaches that a logical form portrays a semantic relationship between important words in a phrase that may include hypernyms and synonyms. (Column 11, Lines 41 to 46) The only element omitted is that the logical forms may represent hyponyms, but it is known that hyponyms are simply the opposite of hypernyms, where a hypernym of the word "vehicle" represents a more generic form of the word "automobile", so that the word "automobile" is a hyponym of "vehicle". However, *Messerly et al. ('977)* teaches information retrieval using semantic representation of text, where a tokenizer creates logical forms characterizing a semantic

relationship between selected words in an input string, and constructs an index representing target documents. (Abstract) Logical forms include semantic relationships of hypernyms and hyponyms. (Column 6, Line 65 to Column 7, Line 59: Figure 4) An objective is to improve a tokenizer for information retrieval to reduce the number of identified occurrences of different senses and increase the number of identified occurrences in which semantically related terms are used. (Column 2, Lines 45 to 56) It would have been obvious to one having ordinary skill in the art to portray semantic relationships including hypernyms and hyponyms as taught by *Messerly et al. ('977)* in an apparatus and method for information retrieval of *Braden-Harder et al. ('822)* for a purpose of improving information retrieval to increase semantically related occurrences.

Claims 30 to 31 and 33 to 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Kupiec ('920)*.

Concerning claims 30 to 31 and 33 to 34, *Braden-Harder et al. ('822)* teaches each of the logical form triples in the query is compared against each of the logical form triples for the retrieved documents. Each different type relation that can arise in a logical form triple is assigned a corresponding weight, reflecting the relative importance ascribed to that relation in indicating a correct semantic match between a query and a document. A final match is obtained by ranking a numeric sum of the weighted matching triples ("said final match is also based on evaluating a degree of coverage"). (Column 16, Lines 1 to 5; Column 16, Lines 21 to 31) Weights for each logical form

represent "coefficients", where there are N logical forms that are being compared between the query and the documents, *i.e.* word1a-relation1-word2a, word1b-relation2-word2b, . . . , word1n-relationn-word2n. One skilled in the art would understand that a plurality of weighted triples, where each triple from a query is paired with each triple from a document, can be represented as a matrix, because the plurality of weights can be written in an array.

Concerning claims 30 to 31 and 33 to 34, the only element not expressly disclosed by *Braden-Harder et al. ('822)* is that the recognized matches have "one or more variable word lengths". *Braden-Harder et al. ('822)* uses logical forms as triples for searching documents, which consist of two words and a relationship between the two words, but does not employ word phrases having variable lengths. Still, it is known in the prior art at least to disregard stop words for purposes of searching documents. Specifically, *Kupiec ('920)* teaches semantic co-occurrence filtering for retrieving documents by speech recognition, where recognition is by keywords that can include common function words (e.g., a, the, of, it, etc.) that can be ignored when they occur in the spoken input for purposes of hypothesis generation. (Column 8, Lines 58 to 63; Column 18, Lines 55 to 65) Moreover, searches can be broadened by dropping words to make it possible for subsets of words in the transcribed question to be matched against documents so that a query can be constructed by different combinations of words from the transcribed question. (Column 16, Lines 4 to 12) An objective is to provide a technique for using information retrieved from a text corpus to automatically disambiguate an error-prone transcription. (Column 2, Lines 1 to 13) It would have

been obvious to one having ordinary skill in the art to provide for comparing an utterance to corresponding recognized matches having variable word lengths as suggested by the ignored keywords of *Kupiec ('920)* in an apparatus and method for information retrieval of *Braden-Harder et al. ('822)* for a purpose of disambiguating an error-prone transcription.

Response to Arguments

Applicant's arguments filed 02 February 2009 directed to the rejection of claims 30 to 31 and 33 to 34 as representing new matter under 35 U.S.C. §112, 1st ¶, are persuasive. Applicant has stated that the feature of variable word lengths is disclosed at ¶[0349] of corresponding U.S. Patent Publication No. 2004/01171289. It is agreed that ¶[0349] discloses that some stored questions may have m - 1, or m - 2, or m + 1, or m + 2 words, which reasonably discloses "variable word lengths" for stored questions, or "corresponding recognized matches". Applicant's comments have clarified that the Specification discloses that the term "variable word lengths" concerns the number of words that are being matched between the utterance and the stored questions, and not the length of each individual word.

Applicant's arguments filed 02 February 2009 directed to the rejections under 35 U.S.C. §103(a) have been fully considered but they are not persuasive.

Firstly, Applicant presents a general statement that the rejection is conclusory and fails to provide any substantial facts or evidence to suggest why a person skilled in the art would incorporate the teachings of *Crespo et al. ('179)* into *Braden-Harder et al.*

('822). Applicant says that the rejection treats the references effectively as if they were disclosing components of a Lego® set, with components that can be interchanged at will between the architectures without any consideration of the underlying operations or constraints associated with each.

However, it is maintained that the analogy of Lego® blocks is a good one for purposes of formulating a valid rejection under 35 U.S.C. §103(a). As long as there is a valid motivation for combining the references – assuming that all the limitations of the claims are taught by the combination – then the motivation for the combination serves as means for connecting the blocks together. Once a valid rejection is made based on obviousness over a combination of references, then the burden shifts to an applicant to show why the combination would not be obvious to one having ordinary skill in the art.

Secondly, Applicant states that Figure 6A of *Braden-Harder et al. ('822)* discloses "statistical processing", and asks where a search engine is disclosed by *Crespo et al. ('179)*. Similarly, Applicant asks where any documents are stored in *Crespo et al. ('179)*. Moreover, Applicant asks what purpose it would serve to add statistical processing to *Crespo et al. ('179)*. Applicant maintains that the natural language statistical processing techniques of *Braden-Harder et al. ('822)* are far removed from *Crespo et al. ('179)*. Furthermore, Applicant argues that the purpose of *Crespo et al. ('179)* is to reduce speech related computations, but that *Braden-Harder et al. ('822)* would increase the number of computations. Finally, Applicant states that the rejection fails to address the claim limitations of "semantic decoding is performed on entire sentences". These arguments are not persuasive.

Basically, for purposes of obviousness, a combination of references should be evaluated for what they suggest as a whole to one having ordinary skill in the art. Applicant's arguments amount to an attack upon the references individually, without due consideration of what the combination of references suggests to one having ordinary skill in the art. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983)

Here, both *Crespo et al. ('179)* and *Braden-Harder et al. ('822)* utilize semantic and statistical decoding in speech recognition or natural language processing. *Crespo et al. ('179)* discloses statistical models for speech recognition, and semantic processing for a natural language component. (Figure 1) *Braden-Harder et al. ('822)* discloses semantic processing of logical forms – Column 11, Lines 34 to 51 – and a statistical-based search engine – Abstract; Column 5, Lines 1 to 7: Figures 4 and 6A: Step 635. Admittedly, *Crespo et al. ('179)* does not expressly disclose a search engine, *per se*, but the disclosed application is to automated directory enquiry assistance – Column 1, Lines 21 to 23. *Crespo et al. ('179)*, then, discloses a speech recognition

system where an application is to search for names in a directory through a spoken name. Thus, the overall application is to providing input to a search engine as disclosed by *Crespo et al. ('179).* It is true that *Braden-Harder et al. ('822)* is not concerned with speech recognition. However, it is well known that search engines can receive input from either text or speech, so that *Crespo et al. ('179)* could obviously serve as a front end to provide input to the information retrieval apparatus and method of *Braden-Harder et al. ('822).* Moreover, the fact that both *Crespo et al. ('179)* and *Braden-Harder et al. ('822)* utilize natural language processing techniques suggests that the two references are at least from analogous art.

Applicant notes that *Crespo et al. ('179)* suggests an advantage of reducing computations required to perform a search in speech recognition, but this does not appear in any manner to invalidate the rejection. Certainly, if the amount of computations is reduced in a front end speech recognition procedure, then potential computational capabilities could be saved for the search and retrieval algorithm of *Braden-Harder et al. ('822),* given a fixed amount of computational power in the overall system.

Moreover, the rejection does disclose the limitation of "semantic decoding is performed on entire sentences". *Braden-Harder et al. ('822)* begins by semantically parsing entire sentences to give logical triples. Specifically, *Braden-Harder et al. ('822)* provides the example of "The octopus has three hearts." (Column 11, Lines 56 to 61: Table 1) *Braden-Harder et al. ('822)* expressly states that the procedure is employed to address "complex sentences", and "The octopus has three hearts." is clearly a

sentence. Table 1 shows how the sentence "The octopus has three hearts." is semantically parsed into logical triples.

Therefore, it is contended that the rejection does not simply pick out excerpts from the references without any rhyme or reason using hindsight, and resulting in a mishmash of components with no logical relationship, as argued by Applicant. Of course, a rejection to some degree always must utilize Applicant's claims as a template for what limitations must be met. The rejection constructs a combination of *Crespo et al. ('179)* and *Braden-Harder et al. ('822)*, where *Crespo et al. ('179)* represents a front end providing a capability of speech recognition input into a search and retrieval apparatus and method of *Braden-Harder et al. ('822).* This is in accordance with the well known fact that search engines can receive input either through text or speech. The overall stated motivation for combining *Braden-Harder et al. ('822)* into *Crespo et al. ('179)* is to improve accuracy of keyword-based searching. Both *Crespo et al. ('179)* and *Braden-Harder et al. ('822)* are from analogous art concerning applying semantic and statistical techniques to natural language processing. The fact that *Crespo et al. ('179)* does not disclose searching documents is not dispositive as the combination should be evaluated for what it suggests as a whole to one having ordinary skill in the art, and should not be limited to what the references teach individually.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN LERNER whose telephone number is (571)

272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/
Primary Examiner
Art Unit 2626
August 18, 2009